

IN THE DRAWINGS:

Please replace the original sheets labeled as Figures 1a and 1b with the replacement drawing sheets, attached hereto, labeled "Prior Art."

Attachment: Two (2) Replacement Sheets.

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated June 1, 2006, the Examiner rejected claims 1-2, 6-10, and 14-24, under 35 U.S.C. §103(a), as allegedly being unpatentable over Takai '433 (U.S. Patent No. 6,819,433); rejected claims 3-4 and 11-12, under 35 U.S.C. §103(a), as allegedly being unpatentable over Takai '433 in view of Osanai '444 (U.S. Patent No. 6,285,444); and rejected claims 5 and 13, under 35 U.S.C. §103(a), as allegedly being unpatentable over Takai '433 in view of Van der Brink '832 (U.S. Patent No. 5,801,832).

The Examiner also objected to the Drawings, Abstract, and claims 1, 2, 7, 8, 15, 20, 21, and 23 for allegedly containing informalities.

By this Amendment, the Drawings and Abstract have been revised and claims 1, 2, 7, 8, 15, 20, 21, and 23 have been amended to provide a clearer presentation of the subject matter claimed. Applicants submit that no new matter has been added.

Applicant submits that, by virtue of the indicated changes, the objections to the Drawings, Abstract, and claims 1, 2, 7, 8, 15, 20, 21, and 23 have been overcome. Accordingly, the immediate withdrawal of the objections to the Drawings, Abstract, and claims 1, 2, 7, 8, 15, 20, 21, and 23 is respectfully requested.

Applicant respectfully traverses the rejections, under 35 U.S.C. §103(a), at least for the reasons detailed below:

I. Prior Art Rejections Under §103(a).

As indicated above, amended claim 1 now positively and clearly recites, *inter alia*, the use of a measuring laser beam that is directed substantially perpendicularly incident on a measuring mirror with a fixed position relative to the object such that a reference line normal to the measuring mirror makes a non-zero acute angle with the z-direction. Such features are amply supported by the numerous embodiments disclosed in the written description. (*See*, Original Specification, par. [00104]-[00105]; FIG. 3).

In dramatic contrast to the Examiner's assertions, Applicants submit that none of the asserted references, whether taken alone or in reasonable combination, teach or suggest each and every element of claim 1, including the features identified above. In particular, primary reference, Takai '433, discloses the use of a Z interferometer **25**, mounted on the Y stage **31**, for measuring a Z position and is arranged to emit a beam by the Z interferometer **25** so as to be perpendicularly incident on the XY plane. That is, first and second mirrors **21** and **22** guide light emitted by the Z interferometer **25** to the Z mirror **30**. The first and second mirrors **21** and **22** are supported and fixed so as to have a reflecting surface with an acute angle with respect to the lens barrel support **35** serving as a measurement reference or to measurement light from the Z interferometer **25**. (See, Takai '433: col. 7, lines 10-30; FIG. 2).

The Examiner alleged that the configuration of Takai '433 allows a normal to the Z-measuring mirror **30** to make a non-zero acute angle with the z direction. (See, Office Action: page 5). Applicant remains at a loss as to how such a configuration could possibly allow a non-zero acute angle with the z-direction.

First of all, Takai '433 specifically discloses that *only* the first and second mirrors **21** and **22** have a reflecting surface with an acute angle with respect to the lens barrel support **35** – not the Z-measuring mirror **30**.

Second, despite the Examiner's attempt to sketch a reference line normal to the measuring mirror that makes a non-zero acute angle with said z-direction, Applicants submit that there is absolutely no basis for such an assertion. The claim language, supported by the ample descriptions, requires the laser beam to be directed substantially perpendicularly incident to the measuring mirror with a fixed position relative to the object such that *a reference line normal to the measuring mirror makes a non-zero acute angle with the z-direction*. Artisans of ordinary skill will readily appreciate that, in the configuration of Takai '433, a reference line normal to the Z-measuring mirror **30** has a *zero angle* along the z-direction. As such, Takai '433 not only fails to teach or suggest the limitation of claim 1 – it effectively teaches away from such a feature.

Applicant further submit that none of the references of record are capable of curing the deficiencies noted above with respect to Takai '433. For example, Osanai '444 merely discloses the use of a reflection surface **31b** that is inclined by 45°. (See, Osanai '444: col. 48-

52; FIG. 3). However, Osanai '444 also discloses that the beams are directed parallel to the X-Y plane, which means that the laser beam is not, in any way, directed substantially perpendicularly incident to the measuring mirror, as required by claim 1.

For at least these reasons, Applicant submits that none of the asserted references, whether taken alone or in reasonable combination, teach each and every element recited by claim 1. As such, claim 1 is patentably distinguishable over all the references of record. Accordingly, Applicant requests the immediate withdrawal of the prior art rejections of claim 1.

Furthermore, because independent claims 2, 7, 8, 20, 21, and 23 recite similar patentable features as claim 1, claims 2, 7, 8, 20, 21, and 23 are patentable for at least the reasons presented with respect to claim 1. And, because claims 3-6, claims 9-18, and claim 24 depend from independent claims 2, 8, and 23, respectively, claims 3-6, claims 9-18, and claim 24 are patentable at least by virtue of dependency as well as for their additional limitations.

II. Conclusion.

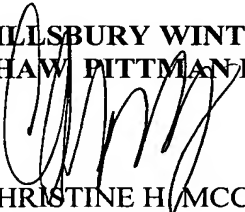
All matters having been addressed and in view of the foregoing, Applicant respectfully requests the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue in which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**.

Respectfully submitted,

**PILLSBURY WINTHROP
SHAW PITTMAN LLP**



CHRISTINE H. MCCARTHY
Reg. No. 41844
Tel. No. 703.770.7743
Fax No. 703.770.7900

Date: October 2, 2006
P.O. Box 10500
McLean, VA 22102
(703) 770-7900